

AMENDMENTS TO THE SPECIFICATION

Please replace the ¶¶ [0017]-[0018] with the following:

[0017] Reference numeral 1 denotes a torque converter, reference numeral 2 denotes a lock-up clutch, reference numeral 3 denotes a CVT (Continuously Variable Transmission), reference numeral 4 denotes a primary pulley revolution speed sensor, reference numeral 5 denotes a secondary pulley revolution speed sensor, reference numeral 6 denotes a hydraulic control valve unit, reference numeral 8 denotes an oil pump driven with an engine, reference numeral 9 denotes a CVT control unit, reference numeral 10 denotes an accelerator opening angle sensor, reference numeral 11 denotes an oil temperature sensor, reference numeral 18 denotes an engine, reference numeral 19 denotes an engine control unit (hereinafter, also abbreviated as ECU), reference numeral 16 denotes an engine speed sensor, and a reference numeral 17 denotes a throttle valve opening angle sensor. Engine 18 is provided with a plurality of fuel injectors to inject fuel and with an electronically controlled throttle valve which is operated in response to a command of an electronically driven actuator. ~~ECU 21~~ ECU 19 outputs a command to inject fuel to each fuel injector and a command to open an angle to electronically controlled throttle valve.

[0018] ~~ECU 21~~ ECU 19 basically receives signals from engine speed sensor 16 detecting the engine speed Ne, from accelerator opening angle sensor 10 to detect a manipulated variable of an accelerator pedal by a vehicle driver, and from throttle opening angle sensor 17 to detect a throttle opening angle TVO corresponding to an engine load and outputs commands such as to command engine 18 to control an engine output torque, to command engine 18 to control an idling speed of engine 18 during a vehicle stop, and to command engine 18 to control a fuel cut-off to improve a fuel economy by cutting off the fuel injection until an engine speed Ne is reduced to a predetermined engine speed during a vehicular deceleration. Torque converter 1 is linked to an engine output axle as a revolution transmission mechanism and lock-up clutch 2 is disposed to directly couple engine 18 to CVT 3. An output end of torque converter 1 is linked to a ring gear 21 of forward-and-rearward switching mechanism 20. Forward-and-rearward switching mechanism 20 is constituted by a planetary gear mechanism having a ring gear 21 linked to an engine output axle 12, a pinion carrier 22, and a sun gear 23 linked to an input axle 13 of the transmission. Pinion carrier 22 is provided with a backward drive brake 24 to fix pinion carrier 22 to a transmission casing and a forward drive clutch 25 to integrally link input axle 13 of the transmission and the pinion carrier 22.

Please replace ¶ [0024] with the following:

[0024] CVT control unit 9 receives primary revolution speed N_{pri} from primary pulley revolution speed sensor 4, a secondary pulley revolution speed N_{SEC} from secondary pulley revolution speed sensor 5, a primary pulley pressure P_{pri} from primary pressure sensor 14, and a secondary pulley P_{sec} from secondary pressure sensor 15. In addition, CVT control unit 9 is communicated with ~~ECU 21~~ ECU 19 to transmit and receive each sensor value information therebetween. Based on these input signals control signals are calculated. Control signals are outputted to hydraulic control valve ~~units~~ unit 6.

Please replace ¶¶ [0027] – [0029] with the following:

[0027] In Fig. 2, reference numeral 40 denotes a pressure regulator valve to adjust a delivery pressure of an oil pump 8 supplied from an oil passage 41 as a line pressure (viz., a pulley clamp pressure). An oil passage 42 is communicated with an oil passage 41. Oil passage 42 is connected to a shift control valve 50 which supplied a control hydraulic to primary pulley cylinder chamber 33 of CVT 3. A pulley pressure supply oil passage 48 which supplies a clamp pressure to clamp belt 34 is connected to secondary pulley cylinder. In addition, oil passage 43 connected to oil passage 42 supplies an original pressure of a pilot valve 55. Shift control valve 50 includes a suction port 50a connected to oil passage 42, a supply port 50b ~~which~~ (which supplies the hydraulic with from primary pulley cylinder 33 via an oil passage 51), a drain port 50c which drains the hydraulic, and a link 52 to which a stepping motor (S/M) ~~54 which 54, which~~ 54, which is operated in response to a control signal from CVT control unit 9, is connected. Shift control valve 50 constitutes a mechanical feedback mechanism. An activation of stepping ~~motor 52~~ motor 54 moves spool 50d. When the hydraulic is supplied to primary pulley cylinder chamber 33, a variation in a gear (shift) ratio causes movable pulley (secondary pulley) to be moved. This movement drives spool 50d in a direction opposite to the drive of stepping motor 54 so that the supply of hydraulic is stopped. Thus, a desired gear (shift) ratio can be achieved. On the other hand, when the hydraulic of primary pulley cylinder chamber 33 is drained (exhausted), the variation in the gear ratio causes the movable pulley to be moved. This movement drives spool 50d in the opposite direction to the previous drive so that the drainage of the hydraulic is stopped. Thus, the desired gear ratio can be achieved.

[0028] Hydraulic drained from pressure regulator valve 40 is supplied to a clutch regulator valve 60 via an oil passage 46. As described ~~above~~, below, a clutch regulator valve 60 adjusts the hydraulic lower than that developed by pressure regulator valve 40 so that the hydraulic supplied as a clutch pressure of ~~a forward~~ the forward clutch 25 is not higher than a pulley clamp pressure. This oil passage 46 is communicated with oil passage 42 via an oil passage 44, which includes ~~and with~~ an orifice 45. Clutch regulator valve 60 adjusts the hydraulic in oil passage 46 and oil passage 61. ~~The hydraulic of oil passage 46 and oil passage 61.~~ The hydraulic of oil passage 61 is supplied to a select switching valve 80 and select control valve 90.

[0029] Pilot valve 55 sets a constant supply pressure to a lock-up solenoid 71, via an oil passage 56, to a select switching solenoid 70. An output pressure of select switching solenoid 70 is supplied from oil passage 73 to select switching valve 80 to control an operation of a select switching valve 80. An output pressure of lock-up solenoid 71 is supplied from oil passage 72 to select switching valve 80.

Please replace ¶¶ [0033] - [0034] with the following:

[0033] At a step S101, CVT control unit 9 determines whether engine speed N_e is higher than a predetermined engine speed N_{e1} . If $N_e > N_{e1}$ (Yes) at step S101, the routine goes to a step S102. That is to say, in a case where the hydraulic is not secured irrespective of the drive of the engine, there is a possibility of failure in the hydraulic circuit. At step S102, CVT control unit 9 determines whether a difference ($P^*_{sec} - P_1$) between a target secondary pulley cylinder hydraulic P^*_{sec} and a first set hydraulic P_1 (for example, 0.05 MPa) is larger than a (second) set hydraulic P_0 (for example, 1 MPa). If the difference ($P^*_{sec} - P_1$) is larger than set hydraulic P_0 (Yes), the routine goes to a step S103. If ($P^*_{sec} - P_1$) $\leq P_1$ (No) at step S102, the routine goes to a step S104. At step S103, CVT control unit 9 sets ($P^*_{sec} - P_1$) as a set value P_{min} . At step S104, CVT control unit 9 sets the set value to P_{min} . At step S102 through S104, CVT control unit 9 selects set value P_{min} to determine if a difference between a target secondary pulley hydraulic P^*_{sec} and an actual secondary pulley hydraulic P_{sec} is too large. If target secondary pulley hydraulic P^*_{sec} is low and placed in the vicinity to set hydraulic value P_0 , there is no possibility that the deviation is in excess of set hydraulic P_0 . Hence, as a determination criterion, a subtraction of first set value P_1 from target secondary pulley hydraulic P^*_{sec} is used. When a target secondary pulley P^*_{sec} is high, set hydraulic

P_0 is used as the deviation determination criterion. At a step S105, CVT control unit 9 determines whether a difference between target secondary pulley hydraulic P^*_{sec} and actual secondary pulley hydraulic P_{sec} is larger than set value P_{min} , CVT control unit 9 can determine that the hydraulic is sufficiently secured. At a step S106, CVT control unit 9 determines if actual secondary pulley hydraulic P_{sec} is smaller than first set hydraulic P_1 . If $P_{sec} < P_1$ (Yes) at step S106, the routine goes to a step S107. If $P_{sec} \geq P_1$ (No) at step S106, the routine goes to step S111. At step S107, CVT control unit 9 determines if shift ratio G ($= N_{pri}$ (or $N_{in})/N_{sec}$ (or $N_{out})$ revolution speed of the primary pulley with respect to the secondary pulley) is larger than a predetermined shift ratio G_0 . If $G > G_0$ (yes) at step S107, the routine goes to a step S110. If $G \leq G_0$ (No) at step S107, the routine goes to step S111. That is to say, if the secondary pulley is not almost revolved against the revolution of the primary pulley, CVT control unit 9 can determine that the belt is being slipped. ~~At step S108,~~ step S110, a belt slip (occurrence) flag F is set to "1". At step S111, a belt slip (occurrence) flag F is reset.

[0034] Fig. 4 shows an operational flowchart representing a belt slip preventive control when the belt slip is detected. At step S201, CVT control unit 9 determines whether a belt slip flag F is set to "1". If set to "1" ($F = 1$) (Yes) at step S201, the routine goes to a step S202. If $F = 0$, the routine ~~in Fig. 5 in Fig. 4~~ is ended. At step S202, CVT control unit 9 determines if CVT falls in an over-drive mode (OD, namely, the shift ratio control is small). If OD (Yes) at step S202, the routine goes to a step S203. ~~If Not, the not (No), the~~ routine goes to a step S204. At step S203, CVT control unit 9 transmits a torque limitation ~~demanded~~ demand value T_1 to ~~ECU 31~~ ECU 19. At step S204, CVT control unit 9 transmits a torque limitation ~~demanded~~ demand value T_2 to ~~ECU 31~~ ECU 19. ~~At step S205, the idling speed increase demand is transmitted.~~ It is noted that $T_1 > T_2$. That is to say, since, when the gear ratio is small, no deceleration is carried out (or a speed increase side), a torque applied to the secondary pulley is small and even if an upper limit of the input torque is made higher, the belt is not easy to be slipped. While securing a smooth running ability, the belt slip can be prevented. On the other hand, when the gear (shift) ratio is large, the deceleration occurs. The torque applied to the secondary pulley becomes large. If torque limitation ~~demanded~~ demand value T_2 is set to be low due to the large torque applied to the secondary pulley, the torque limitation ~~demanded~~ deman value T_2 is set to be low to prevent the recurrence of the slip. Then, at a step S206, CVT control unit 9 transmits to ~~ECU 31~~ ECU 19 a fuel cut-off recovery speed increase demand signal which indicates a resumption of fuel injection when the engine speed is decreased by a predetermined speed. That is to say, if the engine idling

speed is increased, there is a possibility that the fuel injection is resumed at an engine speed lower than the idling speed. Hence, an engine stability may occur. For example, in a case where, during the normal operation the idling speed is 550 rpm and the fuel cut-off recovery engine speed is 1200 rpm, the idling speed is increased to 750 rpm. In this case, fuel cut-off recovery speed is also increased from 1200 rpm to 1350 rpm.